

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 57142546
PUBLICATION DATE : 03-09-82

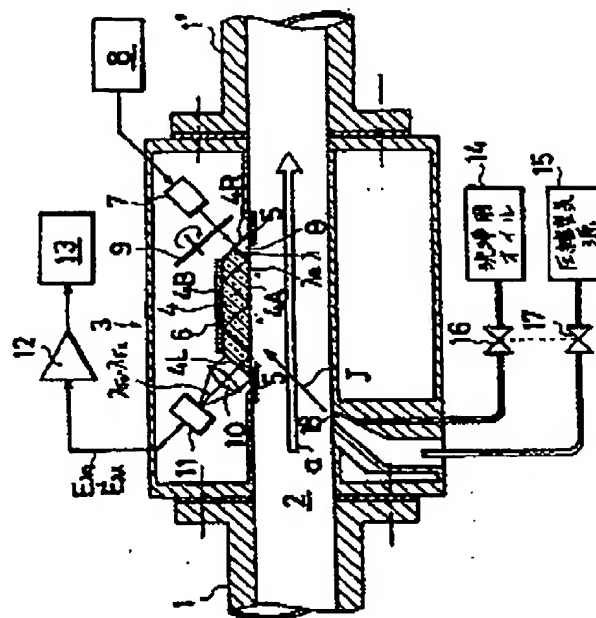
APPLICATION DATE : 28-02-81
APPLICATION NUMBER : 56028633

APPLICANT : SHIMADZU CORP;

INVENTOR : HAYASHIDA KAZUHIRO;

INT.CL. : G01N 21/41 G01N 21/35

TITLE : INFRARED MULTIPLE REFLECTION
TYPE OIL CONCENTRATION
MEASURING APPARATUS



ABSTRACT : PURPOSE: To enable continuous measurement simply without pretreatment such as extraction and emulsification by measuring oil concentration by a full infrared reflection absorption spectrum method with one surface of a multiple reflection element contacting a sample fluid.

CONSTITUTION: A plate-shaped infrared transmission path 4 made of a transparent water in soluble material with a high refractive index in an infrared region is directly connected to a drain tube 1 where a sample water 2 flows. One side of the infrared transmission path 4 contacts the liquid surface 4A of a sample allows an infrared beam (with a wavelength of $3.5\mu\text{m}$) of a semiconductor laser 7 to enter a photoelectric element 11 by full reflection when no oil components are contained in the sample water 2. A intensity signal $E_{\lambda}O$ of this fully reflected light is displayed on a indication recorder 13 via an amplifier 12. Then, when any oil component is contained therein, the refractive index on the liquid contact surface 4A varies to generate a refracted light λQ from the incident light λ so that the intensity of the light detected with the photoelectric element 11 will reduce. The degree of the reduction corresponds to the concentration of the oil concentration.

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